

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Montana Land and Exploration, Inc.
Well Name/Number: ML&E SE Battle 7-2-34N-20E
Location: SW NE Section 2 T34N R20E
County: Blaine, **MT;** **Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 10 to 15 days drilling time

Unusually deep drilling (high horsepower rig): No, small single derrick drilling rig to drill to 4320' TD.

Possible H2S gas production: Yes, low ppms H2S from Sawtooth Formation.

In/near Class I air quality area: No, Class I air quality area.

Air quality permit for flaring/venting (if productive) Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: No special concerns – using small rig to drill to 4320' TD.

Water Quality

(possible concerns)

Salt/oil based mud: No, freshwater, freshwater mud system only.

High water table: No, none anticipated.

Surface drainage leads to live water: No, closest live water is a stock ponds about 1/8 of a mile to the north from this location. Closest drainages is an unnamed ephemeral tributary drainage to Fifteenmile Creek, about 1/8 of a mile to the northeast from this location.

Water well contamination: No water wells within 1 mile from this location.

Porous/permeable soils: No, silty bentonitic soils.

Class I stream drainage: No Class I stream drainages in this area.

Mitigation:

☐ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: _____

Comments: Set 460' of 8 5/8" surface casing cemented to surface should be adequate to protect freshwater zones. Also, fresh water mud systems to be used for the drilling of the surface hole and mainhole. Production 5 1/2" casing will be run if well is successful and will be cemented to surface.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No stream crossings anticipated. Will be crossing only ephemeral drainages.

High erosion potential: No, small cut, up to 1.4' and small fill, up to 1.1', required.

Loss of soil productivity: Yes, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No a large wellsite for this size drilling rig, 300'X300' location size required.

Damage to improvements: None, appears to be grassland.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☐ Other _____

Comments: Access over existing county gravel road, Cherry Ridge Road and existing ranch trail. An access off the ranch trail will be built into this location, about 1/8 of a mile. Cuttings will be mixed and buried in the unlined earthen reserve pit. Drilling fluids will be trucked to a leaking stock pond, with surface owner approval or land applied. Pit will be backfilled when dry. No special concerns

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: No residences within 1 mile of this location.

Possibility of H2S: Possible H2S.

Size of rig/length of drilling time: Small drilling rig 10 to 15 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: No concerns. Adequate surface casing and operational BOP should mitigate and concerns. Distance is sufficient to not be a problem with noise.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Threatened or endangered species listed are the pallid sturgeon and Black-Footed Ferret. Candidate species is the Greater Sage Grouse.

Mitigation:

☐ Avoidance (topographic tolerance/exception)

☐ Other agency review (DFWP, federal agencies, DSL)

☐ Screening/fencing of pits, drillsite

☐ Other: _____

Comments: No live water nearby. Private surface lands. Concerns expressed by Montana Fish Wildlife and Parks for this location are the nearest Lek is more than 4 miles away and this area is critical antelope wintering range. Montana Land and Exploration, Inc. has contacted the surface owner for location damages and had made an agreement. Sage Grouse Mitigation for Oil & Gas Operations on School Trust Lands (November 2007) requires a ¼ mile buffer around active Leks and time restrictions apply. Since the nearest Lek is more than 4 miles away timing and buffer mitigation issue do not apply. Antelope critical antelope wintering range, this well will be drilled this fall. No concerns

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites None identified

Mitigation

☐ avoidance (topographic tolerance, location exception)

☐ other agency review (SHPO, DSL, federal agencies)

☐ Other: _____

Comments: Surface is private land. No concerns.

Social/Economic

(possible concerns)

☐ Substantial effect on tax base

☐ Create demand for new governmental services

☐ Population increase or relocation

Comments: No concerns.

Remarks or Special Concerns for this site

Well is a 4320' TD Sawtooth Formation of test.

Summary: Evaluation of Impacts and Cumulative effects

No, long term impacts expected. Some short term impacts will occur, but can be mitigated in time.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the

human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki
(title:) Chief Field Inspector
Date: September 2, 2010

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Blaine County water wells
(subject discussed)
September 2, 2010
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES
MONTANA COUNTIES, Blaine County
(subject discussed)

September 2, 2010
(date)

Mr. Scott Hemmer, Biologist Montana FWP
(Name and Agency)
Greater Sage Grouse Leks and other wildlife issues in Blaine County, Montana
(subject discussed)
August 31, 2010
(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____